SEQUENCE LISTING

```
<110> Fisher, Paul
<120>
       Melanoma Differential Associated Gene-5 (mda-5).
       Promoter and uses Thereof
<130>
       0575/60849
<140>
       09/515,363
       2000-02-29
<141>
<160>
       PatentIn version 3.0
<170>
<210>
       3365
<211>
<212>
       DNA
<213>
       Human
<400>
gcgcgccggc ctgagagccc tgtggacaac ctcgtcattg tcaggcacag agcggtagac
                                                                       60
cctgcttctc taagtgggca gcggacagcg gcacgcacat ttcacctgtc ccgcagacaa
                                                                      120
cagcaccatc tgcttgggag aaccctctcc cttctctgag aaagaaagat gtcgaatggg
                                                                      180
                                                                      240
tattccacaq acqaqaattt ccgctatctc atctcgtgct tcagggccag ggtgaaaatg
tacatccagg tggagcctgt gctggactac ctgacctttc tgcctgcaga ggtgaaggag
                                                                      300
cagattcaga ggacagtcgc cacctccggg aacatgcagg cagttgaact gctgctgagc
                                                                      360
accttggaga agggagtctg gcaccttggt tggactcggg aattcgtgga ggccctccgg
                                                                      420
agaaccggca gccctctggc cgcccgctac atgaaccctg agctcacgga cttgccctct
                                                                      480
                                                                      540
ccatcgtttg agaacgctca tgatgaatat ctccaactgc tgaacctcct tcagcccact
                                                                      600
ctqqtqqaca aqcttctagt tagagacgtc ttggataagt gcatggagga ggaactgttg
acaattgaag acagaaaccq gattgctgct gcagaaaaca atggaaatga atcaggtgta
                                                                      660
                                                                      720
agagagctac taaaaaggat tgtgcagaaa gaaaactggt tctctgcatt tctgaatgtt
                                                                      780
cttcgtcaaa caggaaacaa tgaacttgtc caagagttaa caggctctga ttgctcagaa
                                                                      840
agcaatgcag agattgagaa tttatcacaa gttgatggtc ctcaagtgga agagcaactt
ctttcaacca cagttcagcc aaatctggag aaggaggtct ggggcatgga gaataactca
                                                                      900
tcagaatcat cttttgcaga ttcttctgta gtttcagaat cagacacaag tttggcagaa
                                                                      960
                                                                     1020
ggaagtgtca gctgcttaga tgaaagtctt ggacataaca gcaacatggg cagtgattca
                                                                     1080
qqcaccatqq qaaqtqattc aqatqaaqaq aatgtggcag caagagcatc cccggagcca
gaactccagc tcaggcctta ccaaatggaa gttgcccagc cagccttgga agggaagaat
                                                                     1140
                                                                     1200
atcatcatct qcctccctac aqqqaqtqga aaaaccagag tggctgttta cattgccaag
gatcacttag acaagaagaa aaaagcatct gagcctggaa aagttatagt tcttgtcaat
                                                                     1260
aaqqtactqc taqttqaaca gctcttccgc aaggagttcc aaccattttt gaagaaatgg
                                                                     1320
tatcgtgtta ttggattaag tggtgatacc caactgaaaa tatcatttcc agaagttgtc
                                                                     1380
```

aagtcctgtg	atattattat	cagtacagct	caaatccttg	aaaactccct	cttaaacttg	1440
gaaaatggag	aagatgctgg	tgttcaattg	tcagactttt	ccctcattat	cattgatgaa	1500
tgtcatcaca	ccaacaaaga	agcagtgtat	aataacatca	tgaggcatta	tttgatgcag	1560
aagttgaaaa	acaatagact	caagaaagaa	aacaaaccag	tgattcccct	tcctcagata	1620
ctgggactaa	cagcttcacc	tggtgttgga	ggggccacga	agcaagccaa	agctgaagaa	1680
cacattttaa	aactatgtgc	caatcttgat	gcatttacta	ttaaaactgt	taaagaaaac	1740
cttgatcaac	tgaaaaacca	aatacaggag	ccatgcaaga	agtttgccat	tgcagatgca	1800
accagagaag	atccatttaa	agagaaactt	ctagaaataa	tgacaaggat	tcaaacttat	1860
tgtcaaatga	gtccaatgtc	agattttgga	actcaaccct	atgaacaatg	ggccattcaa	1920
atggaaaaaa	aagctgcaaa	aaaaggaaat	cgcaaagaac	gtgtttgtgc	agaacatttg	1980
aggaagtaca	atgaggccct	acaaattaat	gacacaattc	gaatgataga	tgcgtatact	2040
catcttgaaa	ctttctataa	tgaagagaaa	gataagaagt	ttgcagtcat	agaagatgat	2100
agtgatgagg	gtggtgatga	tgagtattgt	gatggtgatg	aagatgagga	tgatttaaag	2160
aaacctttga	aactggatga	aacagataga	tttctcatga	ctttatttt	tgaaaacaat	2220
aaaatgttga	aaaggctggc	tgaaaaccca	gaatatgaaa	atgaaaagct	gaccaaatta	2280
agaaatacca	taatggagca	atatactagg	actgaggaat	cagcacgagg	aataatcttt	2340
acaaaaacac	gacagagtgc	atatgcgctt	tcccagtgga	ttactgaaaa	tgaaaaattt	2400
gctgaagtag	gagtcaaagc	ccaccatctg	attggagctg	gacacagcag	tgagttcaaa	2460
cccatgacac	agaatgaaca	aaaagaagtc	attagtaaat	ttcgcactgg	aaaaatcaat	2520
ctgcttatcg	ctaccacagt	ggcagaagaa	ggtctggata	ttaaagaatg	taacattgtt	2580
atccgttatg	gtctcgtcac	caatgaaata	gccatggtcc	aggcccgtgg	tcgagccaga	2640
gctgatgaga	gcacctacgt	cctggttgct	cacagtggtt	caggagttat	cgaacatgag	2700
acagttaatg	atttccgaga	gaagatgatg	tataaagcta	tacattgtgt	tcaaaatatg	2760
aaaccagagg	agtatgctca	taagattttg	gaattacaga	tgcaaagtat	aatggaaaag	2820
aaaatgaaaa	ccaagagaaa	tattgccaag	cattacaaga	ataacccatc	actaataact	2880
ttcctttgca	aaaactgcag	tgtgctagcc	tgttctgggg	aagatatcca	tgtaattgag	2940
aaaatgcatc	acgtcaatat	gaccccagaa	ttcaaggaac	tttacattgt	aagagaaaac	3000
aaagcactgc	aaaagaagtg	tgccgactat	caaataaatg	gtgaaatcat	ctgcaaatgt	3060
ggccaggctt	ggggaacaat	gatggtgcac	aaaggcttag	atttgccttg	tctcaaaata	3120
aggaattttg	tagtggtttt	caaaaataat	tcaacaaaga	aacaatacaa	aaagtgggta	3180
gaattaccta	tcacatttcc	caatcttgac	tattcagaat	gctgtttatt	tagtgatgag	3240
gattagcact	tgattgaaga	ttcttttaaa	atactatcag	ttaaacattt	aatatgatta	3300
tgattaatgt	attcattatg	ctacagaact	gacataagaa	tcaataaaat	gattgtttta	3360

ctctg 3365

<210> 2 <211> 3131 <212> PRT <213> Human <400> 2 Ala Thr Gly

<400> Ala Thr Gly Thr Cys Gly Ala Ala Thr Gly Gly Gly Thr Ala Thr Thr
1 10 15 Cys Cys Ala Cys Ala Gly Ala Cys Gly Ala Gly Ala Ala Thr Thr Thr 20 25 30 Cys Cys Gly Cys Thr Ala Thr Cys Thr Cys Ala Thr Cys Gly Thr Gly Cys Thr Thr Cys Ala Gly Gly Gly Cys Cys Ala Gly Gly Gly 50 55 60 Thr Gly Ala Ala Ala Thr Gly Thr Ala Cys Ala Thr Cys Cys Ala 65 70 75 80 Gly Gly Thr Gly Gly Ala Gly Cys Cys Thr Gly Thr Gly Cys Thr Gly
85 90 95 Gly Ala Cys Thr Ala Cys Cys Thr Gly Ala Cys Cys Thr Thr Cys 100 105 110 Thr Gly Cys Cys Thr Gly Cys Ala Gly Ala Gly Gly Thr Gly Ala Ala 115 120 125 Gly Gly Ala Gly Cys Ala Gly Ala Thr Thr Cys Ala Gly Ala Gly Gly 130 135 140 Ala Cys Ala Gly Thr Cys Gly Cys Cys Ala Cys Cys Thr Cys Cys Gly
145 150 155 160 Gly Gly Ala Ala Cys Ala Thr Gly Cys Ala Gly Gly Cys Ala Gly Thr 165 170 175 Thr Gly Ala Ala Cys Thr Gly Cys Thr Gly Cys Thr Gly Ala Gly Cys 180 185 190 Ala Cys Cys Thr Thr Gly Gly Ala Gly Ala Ala Gly Gly Gly Ala Gly 195 200 205 Thr Cys Thr Gly Gly Cys Ala Cys Cys Thr Thr Gly Gly Thr Thr Gly 210 220 Gly Ala Cys Thr Cys Gly Gly Gly Ala Ala Thr Thr Cys Gly Thr Gly 225 230 235 240 Gly Ala Gly Gly Cys Cys Cys Thr Cys Cys Gly Gly Ala Gly Ala Ala 245 250 255 Cys Cys Gly Gly Cys Ala Gly Cys Cys Cys Thr Cys Thr Gly Gly Cys
260 265 270 Cys Gly Cys Cys Cys Gly Cys Thr Ala Cys Ala Thr Gly Ala Ala Cys 275 280 285 Cys Cys Thr Gly Ala Gly Cys Thr Cys Ala Cys Gly Gly Ala Cys Thr 290 295 300

Thr Gly Cys Cys Cys Thr Cys Thr Cys Cys Ala Thr Cys Gly Thr Thr 305 310 315 320 Thr Gly Ala Gly Ala Ala Cys Gly Cys Thr Cys Ala Thr Gly Ala Thr 325 330 335 Gly Ala Ala Thr Ala Thr Cys Thr Cys Cys Ala Ala Cys Thr Gly Cys 340 350 Thr Gly Ala Ala Cys Cys Thr Cys Cys Thr Thr Cys Ala Gly Cys Cys 355 360 365 Cys Ala Cys Thr Cys Thr Gly Gly Thr Gly Gly Ala Cys Ala Ala Gly 370 380 Cys Thr Thr Cys Thr Ala Gly Thr Thr Ala Gly Ala Gly Ala Cys Gly 385 390 395 400 Thr Cys Thr Thr Gly Gly Ala Thr Ala Ala Gly Thr Gly Cys Ala Thr 405 410 415 Gly Gly Ala Gly Gly Ala Gly Gly Ala Ala Cys Thr Gly Thr Thr Gly 420 425 430 Ala Cys Ala Ala Thr Thr Gly Ala Ala Gly Ala Cys Ala Gly Ala Ala 435 440 445 Ala Cys Cys Gly Gly Ala Thr Thr Gly Cys Thr Gly Cys 450 460 Ala Gly Ala Ala Ala Cys Ala Ala Thr Gly Gly Ala Ala Ala Thr 465 470 475 480 Gly Ala Ala Thr Cys Ala Gly Gly Thr Gly Thr Ala Ala Gly Ala Gly 485 490 495 Ala Gly Cys Thr Ala Cys Thr Ala Ala Ala Ala Ala Gly Gly Ala Thr 500 505 510 Thr Gly Thr Gly Cys Ala Gly Ala Ala Ala Gly Ala Ala Ala Cys 515 520 525 Thr Gly Gly Thr Thr Cys Thr Cys Thr Gly Cys Ala Thr Thr Cys 530 540 Thr Gly Ala Ala Thr Gly Thr Thr Cys Thr Thr Cys Gly Thr Cys Ala 545 550 555 560 Ala Ala Cys Ala Gly Gly Ala Ala Ala Cys Ala Ala Thr Gly Ala Ala 565 570 575 Cys Thr Thr Gly Thr Cys Cys Ala Ala Gly Ala Gly Thr Thr Ala Ala 580 585 590 Cys Ala Gly Gly Cys Thr Cys Thr Gly Ala Thr Thr Gly Cys Thr Cys 595 600 605 Ala Gly Ala Ala Ala Gly Cys Ala Ala Thr Gly Cys Ala Gly Ala Gly 610 620 Ala Thr Thr Gly Ala Gly Ala Ala Thr Thr Ala Thr Cys Ala Cys 625 630 635 640 Ala Ala Gly Thr Thr Gly Ala Thr Gly Gly Thr Cys Cys Thr Cys Ala 645 650 655 Ala Gly Thr Gly Gly Ala Ala Gly Ala Gly Cys Ala Ala Cys Thr Thr

660 665 670

Cys Thr Thr Cys Ala Ala Cys Cys Ala Cys Ala Gly Thr Thr Cys 675 680 685 Ala Gly Cys Cys Ala Ala Ala Thr Cys Thr Gly Gly Ala Gly Ala Ala 690 695 700 Gly Gly Ala Gly Gly Thr Cys Thr Gly Gly Gly Gly Cys Ala Thr Gly 705 710 715 720 Gly Ala Gly Ala Ala Thr Ala Ala Cys Thr Cys Ala Thr Cys Ala Gly
725 730 735 Ala Ala Thr Cys Ala Thr Cys Thr Thr Thr Gly Cys Ala Gly Ala
740 745 750 Thr Thr Cys Thr Thr Cys Thr Gly Thr Ala Gly Thr Thr Thr Cys Ala 755 760 765 Gly Ala Ala Thr Cys Ala Gly Ala Cys Ala Cys Ala Gly Thr Thr 770 780 Thr Gly Gly Cys Ala Gly Ala Ala Gly Gly Ala Ala Gly Thr Gly Thr 785 790 795 800 Cys Ala Gly Cys Thr Gly Cys Thr Thr Ala Gly Ala Thr Gly Ala Ala 805 810 815 Ala Gly Thr Cys Thr Thr Gly Gly Ala Cys Ala Thr Ala Ala Cys Ala 820 825 830 Gly Cys Ala Ala Cys Ala Thr Gly Gly Gly Cys Ala Gly Thr Gly Ala 835 840 845 Thr Thr Cys Ala Gly Gly Cys Ala Cys Cys Ala Thr Gly Gly Gly Ala 850 855 860 Ala Gly Thr Gly Ala Thr Thr Cys Ala Gly Ala Thr Gly Ala Ala Gly 865 870 875 880 Ala Gly Ala Ala Thr Gly Thr Gly Gly Cys Ala Gly Cys Ala Ala Gly 885 890 895 Ala Gly Cys Ala Thr Cys Cys Cys Gly Gly Ala Gly Cys Cys Ala
900 905 910 Gly Ala Ala Cys Thr Cys Cys Ala Gly Cys Thr Cys Ala Gly Gly Cys 915 920 925 Cys Thr Thr Ala Cys Cys Ala Ala Ala Thr Gly Gly Ala Ala Gly Thr 930 935 940 Thr Gly Cys Cys Ala Gly Cys Cys Ala Gly Cys Cys Thr Thr Gly 945 950 955 960 Gly Ala Ala Gly Gly Gly Ala Ala Gly Ala Ala Thr Ala Thr Cys Ala 965 970 975 Thr Cys Ala Thr Cys Thr Gly Cys Cys Thr Cys Cys Cys Thr Ala Cys 980 985 990 Ala Gly Gly Gly Ala Gly Thr Gly Gly Ala Ala Ala Ala Cys Cys 995 1000 1005 Ala Gly Ala Gly Thr Gly Gly Cys Thr Gly Thr Thr Ala Cys 1010 1015 1020

Ala Thr Thr Gly Cys Cys Ala Ala Gly Gly Ala Thr Cys Ala Cys 1025 1030 1035 Thr Thr Ala Gly Ala Cys Ala Ala Gly Ala Ala Ala 1040 1045 1050 Ala Ala Gly Cys Ala Thr Cys Thr Gly Ala Gly Cys Cys Thr 1055 1060 1065 Gly Gly Ala Ala Ala Gly Thr Thr Ala Thr Ala Gly Thr Thr 1070 1075 1080 Cys Thr Thr Gly Thr Cys Ala Ala Thr Ala Ala Gly Gly Thr Ala 1085 1090 1095 Cys Thr Gly Cys Thr Ala Gly Thr Thr Gly Ala Ala Cys Ala Gly 1100 1110 Cys Thr Cys Thr Thr Cys Cys Gly Cys Ala Ala Gly Gly Ala Gly 1115 1120 1125 Thr Thr Cys Cys Ala Ala Cys Cys Ala Thr Thr Thr Thr Gly 1130 1140 Ala Ala Gly Ala Ala Ala Thr Gly Gly Thr Ala Thr Cys Gly Thr 1145 1150 1155 Thr Ala Thr Thr Gly Gly Ala Thr Thr Ala Ala Gly Thr 1165 1170 Gly Gly Thr Gly Ala Thr Ala Cys Cys Cys Ala Ala Cys Thr Gly 1175 1180 1185 Ala Ala Ala Thr Ala Thr Cys Ala Thr Thr Thr Cys Cys Ala 1190 1195 1200 Gly Ala Ala Gly Thr Thr Gly Thr Cys Ala Ala Gly Thr Cys Cys 1205 1210 1215 Thr Gly Thr Gly Ala Thr Ala Thr Thr Ala Thr Cys Ala Gly Thr 1220 1225 1230 Ala Cys Ala Gly Cys Thr Cys Ala Ala Ala Thr Cys Cys Thr Thr 1235 1240 1245 Gly Ala Ala Ala Cys Thr Cys Cys Cys Thr Cys Thr Thr Ala 1250 1255 1260 Ala Ala Cys Thr Thr Gly Gly Ala Ala Ala Ala Thr Gly Gly Ala 1265 1270 1275 Gly Ala Ala Gly Ala Thr Gly Cys Thr Gly Gly Thr Gly Thr Thr 1280 1285 1290 Cys Ala Ala Thr Thr Gly Thr Cys Ala Gly Ala Cys Thr Thr Thr 1295 1300 1305 Thr Cys Cys Cys Thr Cys Ala Thr Thr Ala Thr Cys Ala Thr Thr 1310 1320 Gly Ala Thr Gly Ala Ala Thr Gly Thr Cys Ala Thr Cys Ala Cys 1325 1330 1335 1330 Ala Cys Cys Ala Ala Cys Ala Ala Gly Ala Ala Gly Cys Ala 1340 1345 1350

Gly Thr Gly Thr Ala Thr Ala Ala Thr Ala Ala Cys Ala Thr Cys 1365 Ala Thr Gly Ala Gly Gly Cys Ala Thr Thr Ala Thr Thr Gly 1370 1380 1380 Ala Thr Gly Cys Ala Gly Ala Ala Gly Thr Thr Gly Ala Ala Ala 1385 1390 1395 Ala Ala Cys Ala Ala Thr Ala Gly Ala Cys Thr Cys Ala Ala Gly 1400 1405 1410 Ala Ala Ala Gly Ala Ala Ala Cys Ala Ala Ala Cys Cys Ala 1415 1420 1425 Gly Thr Gly Ala Thr Thr Cys Cys Cys Cys Thr Thr Cys Cys Thr 1430 1435 1440 Cys Ala Gly Ala Thr Ala Cys Thr Gly Gly Gly Ala Cys Thr Ala 1445 1450 1455 Ala Cys Ala Gly Cys Thr Thr Cys Ala Cys Cys Thr Gly Gly Thr 1460 1465 1470 Gly Thr Thr Gly Gly Ala Gly Gly Gly Gly Cys Cys Ala Cys Gly 1475 1480 1485 Ala Ala Gly Cys Ala Ala Gly Cys Cys Ala Ala Gly Cys Thr 1490 1495 1500 Gly Ala Ala Gly Ala Ala Cys Ala Cys Ala Thr Thr Thr Ala 1505 1510 1515 Ala Ala Cys Thr Ala Thr Gly Thr Gly Cys Cys Ala Ala Thr 1520 1525 1530 Cys Thr Thr Gly Ala Thr Gly Cys Ala Thr Thr Thr Ala Cys Thr 1535 1540 1545 Ala Thr Thr Ala Ala Ala Ala Cys Thr Gly Thr Thr Ala Ala Ala 1550 1560 Gly Ala Ala Ala Cys Cys Thr Thr Gly Ala Thr Cys Ala Ala 1565 1570 1575 1565 Cys Thr Gly Ala Ala Ala Ala Cys Cys Ala Ala Ala Thr Ala 1580 1585 1590 Cys Ala Gly Gly Ala Gly Cys Cys Ala Thr Gly Cys Ala Ala Gly 1595 1600 1605 Ala Ala Gly Thr Thr Thr Gly Cys Cys Ala Thr Thr Gly Cys Ala 1610 1615 1620 Gly Ala Thr Gly Cys Ala Ala Cys Cys Ala Gly Ala Gly Ala Ala 1630 Gly Ala Thr Cys Cys Ala Thr Thr Ala Ala Ala Gly Ala Gly 1640 1645 1650 Ala Ala Cys Thr Thr Cys Thr Ala Gly Ala Ala Ala Thr Ala Ala Thr Gly Ala Cys Ala Ala Gly Gly Ala Thr Thr Cys Ala Ala Ala Cys Thr Thr Ala Thr Thr Gly Thr Cys Ala Ala Ala Thr Gly

1685 1690 1695 Ala Gly Thr Cys Cys Ala Ala Thr Gly Thr Cys Ala Gly Ala Thr Thr Gly Gly Ala Ala Cys Thr Cys Ala Ala Cys Cys 1720 1725 Thr Thr Thr Ala Thr Gly Ala Ala Cys Ala Ala Thr Gly Gly Cys Cys 1730 1735 1740 Thr Cys Ala Ala Ala Thr Gly Gly Ala Ala Ala Ala Ala Ala Ala Ala Gly Cys Thr Gly Cys Ala Ala Ala Ala Ala Ala Ala 1760 1765 1770 Gly Gly Ala Ala Ala Thr Cys Gly Cys Ala Ala Ala Gly Ala Ala 1775 1780 1785 Cys Gly Thr Gly Thr Thr Thr Gly Thr Gly Cys Ala Gly Ala Ala 1790 1795 1800 Cys Ala Thr Thr Gly Ala Gly Gly Ala Ala Gly Thr Ala Cys 1805 1810 1815 Ala Ala Thr Gly Ala Gly Gly Cys Cys Cys Thr Ala Cys Ala Ala 1820 1825 1830 1820 Ala Thr Thr Ala Ala Thr Gly Ala Cys Ala Cys Ala Ala Thr Thr 1835 1840 1845 Cys Gly Ala Ala Thr Gly Ala Thr Ala Gly Ala Thr Cys Cys Gly Cys Gly Thr Ala Thr Ala Cys Thr Cys Ala Thr Cys Thr Thr Gly 1865 1870 1865 Ala Ala Cys Thr Thr Thr Cys Thr Ala Thr Ala Ala Thr Gly 1880 1885 1890 Ala Ala Gly Ala Gly Ala Ala Gly Ala Thr Ala Ala Gly Ala 1895 1900 1905 Ala Gly Thr Thr Thr Gly Cys Ala Gly Thr Cys Ala Thr Ala Gly
1910 1915 1920 Ala Ala Gly Ala Thr Gly Ala Thr Ala Gly Thr Gly Ala Thr Gly 1925 1930 1935 Ala Gly Gly Gly Thr Gly Gly Thr Gly Ala Thr Gly 1940 1945 1950 Ala Gly Thr Ala Thr Thr Gly Thr Gly Ala Thr Gly Gly Thr Gly 1955 1960 1965 Ala Thr Gly Ala Ala Gly Ala Thr Gly Ala Gly Gly Ala Thr Gly 1970 1975 1980 Ala Thr Thr Ala Ala Ala Gly Ala Ala Cys Cys Thr Thr 1985 1990 1995 1985 Thr Gly Ala Ala Ala Cys Thr Gly Gly Ala Thr Gly Ala Ala Ala 2000 2005 2010 Cys Ala Gly Ala Thr Ala Gly Ala Thr Thr Cys Thr Cys Ala 2015 2020 2025

Thr Gly Ala Cys Thr Thr Thr Ala Thr Thr Thr Thr Gly 2030 2035 2040 Ala Ala Ala Cys Ala Ala Thr Ala Ala Ala Ala Thr Gly Thr 2045 2050 2055 Thr Gly Ala Ala Ala Ala Gly Gly Cys Thr Gly Gly Cys Thr Gly 2060 2065 2070 Ala Ala Ala Cys Cys Cys Ala Gly Ala Ala Thr Ala Thr Gly 2075 2080 2085 Ala Ala Ala Ala Ala Ala Ala Ala Gly Cys Thr Gly Ala 2090 2095 2100 Cys Cys Ala Ala Ala Thr Thr Ala Ala Gly Ala Ala Ala Thr Ala 2105 2110 2115 Cys Cys Ala Thr Ala Ala Thr Gly Gly Ala Gly Cys Ala Ala Thr 2120 2125 2130 Ala Thr Ala Cys Thr Ala Gly Gly Ala Cys Thr Gly Ala Gly Gly 2135 2140 2145 Ala Ala Thr Cys Ala Gly Cys Ala Cys Gly Ala Gly Gly Ala Ala 2150 2155 2160 Thr Ala Ala Thr Cys Thr Thr Ala Cys Ala Ala Ala Ala Ala Cys Ala Cys Gly Ala Cys Ala Gly Ala Gly Thr Gly Cys Ala Thr 2180 2185 2190 Ala Thr Gly Cys Gly Cys Thr Thr Thr Cys Cys Cys Ala Gly Thr 2195 2200 2205 Gly Gly Ala Thr Thr Ala Cys Thr Gly Ala Ala Ala Ala Thr Gly 2210 2220 Ala Ala Ala Ala Thr Thr Gly Cys Thr Gly Ala Ala Gly 2235 Thr Ala Gly Gly Ala Gly Thr Cys Ala Ala Ala Gly Cys Cys 2240 2245 2250 Ala Cys Cys Ala Thr Cys Thr Gly Ala Thr Thr Gly Gly Ala Gly 2255 2260 2265 Cys Thr Gly Gly Ala Cys Ala Cys Ala Gly Cys Ala Gly Thr Gly 2270 2280 Ala Gly Thr Thr Cys Ala Ala Cys Cys Cys Ala Thr Gly Ala 2285 2290 2295 Cys Ala Cys Ala Gly Ala Ala Thr Gly Ala Ala Cys Ala Ala Ala 2300 2305 2310 Ala Ala Gly Ala Ala Gly Thr Cys Ala Thr Thr Ala Gly Thr Ala 2315 2320 2325 2320 Thr Thr Cys Gly Cys Ala Cys Thr Gly Gly Ala Ala 2335 2340 Ala Ala Ala Ala Ala Thr Cys Ala Ala Thr Cys Thr Gly Cys Thr Thr Ala 2345 2355

Thr Cys Gly Cys Thr Ala Cys Cys Ala Cys Ala Gly Thr Gly Gly 2360 2365 2370 Cys Ala Gly Ala Ala Gly Ala Ala Gly Gly Thr Cys Thr Gly Gly 2375 2380 2385 Ala Thr Ala Thr Thr Ala Ala Ala Gly Ala Ala Thr Gly Thr Ala 2390 2400 Ala Cys Ala Thr Thr Gly Thr Thr Ala Thr Cys Cys Gly Thr Thr 2405 2410 2415 Ala Thr Gly Gly Thr Cys Thr Cys Gly Thr Cys Ala Cys Cys Ala 2420 2425 2430 Ala Thr Gly Ala Ala Ala Thr Ala Gly Cys Cys Ala Thr Gly Gly 2435 2440 2445 Thr Cys Cys Ala Gly Gly Cys Cys Cys Gly Thr Gly Gly Thr Cys 2450 2455 2460 Gly Ala Gly Cys Cys Ala Gly Ala Gly Cys Thr Gly Ala Thr Gly 2465 2470 2475 Ala Gly Ala Gly Cys Ala Cys Cys Thr Ala Cys Gly Thr Cys Cys 2480 2485 2490 Thr Gly Gly Thr Thr Gly Cys Thr Cys Ala Cys Ala Gly Thr Gly 2495 2500 2505 Gly Thr Thr Cys Ala Gly Gly Ala Gly Thr Thr Ala Thr Cys Gly 2510 2520 Ala Ala Cys Ala Thr Gly Ala Gly Ala Cys Ala Gly Thr Thr Ala 2525 2530 2535 Ala Thr Gly Ala Thr Thr Cys Cys Gly Ala Gly Ala Gly Ala 2540 2545 2550 Ala Gly Ala Thr Gly Ala Thr Gly Thr Ala Thr Ala Ala Ala Gly 2555 2560 2565 Cys Thr Ala Thr Ala Cys Ala Thr Thr Gly Thr Gly Thr Thr Cys 2570 2580 Ala Ala Ala Thr Ala Thr Gly Ala Ala Ala Cys Cys Ala Gly 2585 2590 2595 Ala Gly Gly Ala Gly Thr Ala Thr Gly Cys Thr Cys Ala Thr Ala 2600 2605 2610 Ala Gly Ala Thr Thr Thr Gly Gly Ala Ala Thr Thr Ala Cys 2615 2620 2625 Ala Gly Ala Thr Gly Cys Ala Ala Ala Gly Thr Ala Thr Ala Ala 2630 2635 2640 Thr Gly Gly Ala Ala Ala Gly Ala Ala Ala Thr Gly Ala 2645 2650 2655 Ala Ala Cys Cys Ala Ala Gly Ala Gly Ala Ala Ala Thr Ala 2660 2665 2670 Thr Thr Gly Cys Cys Ala Ala Gly Cys Ala Thr Thr Ala Cys Ala Ala Gly Ala Ala Thr Ala Ala Cys Cys Cys Ala Thr Cys Ala Cys

2690 2695 2700 Thr Ala Ala Thr Ala Ala Cys Thr Thr Thr Cys Cys Thr Thr Thr 2705 2710 2715 Gly Cys Ala Ala Ala Ala Cys Thr Gly Cys Ala Gly Thr Gly 2720 2730 Thr Gly Cys Thr Ala Gly Cys Cys Thr Gly Thr Thr Cys Thr Gly 2735 2740 2745 Gly Gly Gly Ala Ala Gly Ala Thr Ala Thr Cys Cys Ala Thr Gly 2750 2760 Thr Ala Ala Thr Thr Gly Ala Gly Ala Ala Ala Ala Thr Gly Cys 2765 2770 2775 Ala Thr Cys Ala Cys Gly Thr Cys Ala Ala Thr Ala Thr Gly Ala 2780 2785 2790 Cys Cys Cys Ala Gly Ala Ala Thr Thr Cys Ala Ala Gly Gly 2795 2800 2805 Ala Ala Cys Thr Thr Ala Cys Ala Thr Thr Gly Thr Ala Ala 2810 2820 Gly Ala Gly Ala Ala Ala Cys Ala Ala Ala Gly Cys Ala Cys 2825 2830 2835 Thr Gly Cys Ala Ala Ala Ala Gly Ala Ala Gly Thr Gly 2840 2845 2850 Cys Cys Gly Ala Cys Thr Ala Thr Cys Ala Ala Ala Thr Ala Ala 2855 2860 2865 Gly Gly Thr Gly Ala Ala Ala Thr Cys Ala Thr Cys Thr 2875 2880 Gly Cys Ala Ala Ala Thr Gly Thr Gly Gly Cys Cys Ala Gly Gly 2885 2890 2895 Cys Thr Thr Gly Gly Gly Ala Ala Cys Ala Ala Thr Gly Ala 2900 2905 2910 Thr Gly Gly Thr Gly Cys Ala Cys Ala Ala Ala Gly Gly Cys Thr 2915 2920 2925 Thr Ala Gly Ala Thr Thr Thr Gly Cys Cys Thr Thr Gly Thr Cys 2935 Thr Cys Ala Ala Ala Ala Thr Ala Ala Gly Gly Ala Ala Thr Thr 2945 2950 2955 Thr Thr Gly Thr Ala Gly Thr Gly Gly Thr Thr Thr Thr Cys Ala 2965 Ala Ala Ala Thr Ala Ala Thr Thr Cys Ala Ala Cys Ala Ala 2975 2980 2985 Ala Gly Ala Ala Cys Ala Ala Thr Ala Cys Ala Ala Ala Ala 2990 2995 3000 Ala Gly Thr Gly Gly Gly Thr Ala Gly Ala Ala Thr Thr Ala Cys 3010 Cys Thr Ala Thr Cys Ala Cys Ala Thr Thr Thr Cys Cys Cys Ala 3020 3025 3030

```
Ala Thr Cys Thr Thr Gly Ala Cys Thr Ala Thr Thr Cys Ala Gly
    3035
        Thr Gly Cys Thr Gly Thr Thr Ala Thr
3055 3060
Ala Ala
                                                   Thr Thr Ala
Gly Thr Gly Ala Thr Gly Ala Gly Gly Ala Thr Thr Ala Gly Cys
    3065
Ala Cys Thr Thr Gly Ala Thr Thr Gly Ala Ala Gly Ala Thr Thr
    3080
Cys Thr Thr Thr Ala Ala Ala Thr Ala Cys Thr Ala Thr
    3095
Cys Ala Gly Thr Thr Ala Ala Ala Cys Ala Thr Thr
                                                   Thr Ala Ala
    3110
                                               3120
Thr Ala Thr Gly Ala Thr Thr
                              Ala
    3125
                         3130
<210>
       1026
<211>
<212>
       DNA
<213>
       Human
<220>
<221>
       Promoter
       (551)..(551)
<222>
       n at position 551 represents any nucleotide including c,g,t,a,u
<223>
<400>
gcacattttg gcctacaaag gaccttattg ttaaggcaga acctgctggg aaaacaaaat
                                                                       60
atccgccgga ggagctttgt agagcgttgg tcttggtgtc agagagaatt cgctttcctt
                                                                      120
ttctgtttcc cgcggtgtcc ttaaccaaag gcctcctctc ttcacccgcc ccgaccaaaa
                                                                      180
                                                                      240
ggtggcgtct ccctgaggaa actccctccc cgccaggcag attacgttta caaagtcctg
                                                                      300
agaagagaat cgaaacagaa accaaagtca ggcaaactct gtaagaactg cctgacagaa
                                                                      360
agctggactc aaagctccta cccgagtgtg cagcaggatc gccccggtcc gggaccccag
                                                                      420
gcgcacaccg cagagtccaa agtgccgcgc ctgccggccg cacctgcctg ccgcggcccc
                                                                      480
gcgcgccgcc ccgctgccca cctgcccgcc tgcccacctg cccaggtgcg agtgcagccc
                                                                      540
cgcgcgccgg cctgagagcc ctgtggacaa cctcgtcatt gtcaggcaca gagcggtaga
ccctgcttct ntaagtgggc agcggacagc ggcacgcaca tttcacctgt cccgcagaca
                                                                      600
                                                                      660
ctgcttggga gaaccctctc ccttctctga gaaagaaaga tgtcgaatgg gtattccaca
                                                                      720
gacgagaatt teegetatet eatetegtge tteagggeea gggtgaaaat gtacateeag
                                                                      780
gtggagcctg tgctggacta cctgaccttt ctgcctgcag aggtgaagga gcagattcag
aggacagtcg ccacctccgg gaacatgcag gcagttgaac tgctgctgag caccttggag
                                                                      840
                                                                      900
aagggagtct ggcaccttgg ttggactcgg gaattcgtgg aggccctccg gagaaccggc
agccctctgg ccgcccgcta catgaaccct gagctcacgg acttgccctc tccatcgttt
                                                                      960
gagaacgctc atgatgaata tctccaactg ctgaacctcc ttcagcccac tctggtggac
                                                                     1020
```

aagctt 1026